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Proposed Maximum Residue Limit PMRL2017-16

Pyroxasulfone

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has concluded that the addition of new uses on various commodities to the product label of Pyroxasulfone 85 WG Herbicide, containing technical grade pyroxasulfone, is acceptable. The specific uses approved in Canada are detailed on the label of Pyroxasulfone 85 WG Herbicide, *Pest Control Products Act* Registration Number 30572.

The evaluation of this pyroxasulfone application indicated that the end-use product has value and the human health and environmental risks associated with the new uses are acceptable.

Before registering a pesticide for food use in Canada, the PMRA must determine the quantity of residues that are likely to remain in or on the food when the pesticide is used according to label directions and that such residues will not be a concern to human health. This quantity is then legally established as a maximum residue limit (MRL). An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

In addition, the PMRA is proposing to establish MRLs for pyroxasulfone on peanut commodities to permit the import and sale of food containing such residues. The PMRA has determined the quantity of residues that are likely to remain in or on the imported commodities when pyroxasulfone is used according to label directions in the exporting country, and that such residues will not be a concern to human health.

Consultation on the proposed MRLs for pyroxasulfone is being conducted via this document (see Next Steps, the last section of this document). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Canada's Notification Authority and Enquiry Point.

The proposed MRLs, to be added to the MRLs already established for pyroxasulfone, are as follows.

Table 1 Proposed Maximum Residue Limits for Pyroxasulfone

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
Pyroxasulfone	3-[(5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)pyrazol-4-ylmethylsulfonyl]-4,5-dihydro-5,5-dimethyl-1,2-oxazole, and the metabolites [5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1*H*-pyrazol-4-yl]methanesulfonic acid (M-1); 5-	0.3	Peanuts
		0.15	Dried shelled pea and bean, except soybean (crop subgroup 6C)

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
	difluoromethoxy-1-methyl-3-trifluoromethyl-1*H*-pyrazole-4-carboxylic acid (M-3); [5-(difluoromethoxy)-3-(trifluoromethyl)-1*H*-pyrazol-4-yl]methanesulfonic acid (M-25); and 3-[1-carboxy-2-(5,5-dimethyl-4,5-dihydroisoxazol-3-ylthio)ethylamino]-3-oxopropanoic acid (M-28)	0.07	Flaxseeds

[1] ppm = parts per million

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the crop field trials used to generate residue chemistry data.

Pyroxasulfone is an active ingredient that is concurrently being registered in Canada and the United States for use pre- and/or early post-emergence on various dry peas and dry beans, flaxseeds and peanuts. The MRLs proposed for pyroxasulfone in Canada are the same as corresponding tolerances to be promulgated in the United States.

Once established, the American tolerances for pyroxasulfone will be listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide.

Currently, there are no Codex MRLs[1] listed for pyroxasulfone in or on any commodity on the Codex Alimentarius Pesticide Residues in Food and Feed website.

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for pyroxasulfone up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs.

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[1] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

Appendix I

Summary of Field Trial Data Used to Support the Proposed Maximum Residue Limits

Residue data for pyroxasulfone in dry peas, dry beans, and flax were submitted to support the domestic use of Pyroxasulfone 85 WG Herbicide on chickpeas, lentils, field peas, and flax. Residue data for pyroxasulfone in peanuts were submitted to support the maximum residue limit on imported peanuts. In addition, processing studies in treated flax and peanuts were reviewed to determine the potential for concentration of residues of pyroxasulfone into processed commodities.

Maximum Residue Limits

The recommendation for maximum residue limits (MRLs) for pyroxasulfone was based upon the submitted field trial data, and the guidance provided in the OECD MRL Calculator. Table A1 summarizes the residue data used to calculate the proposed MRLs for crop.

Table A1 Summary of Field Trial and Processing Data Used to Support MRLs

Commodity	Application Method/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Dry peas	Soil/pre-emergent + foliar/post-emergent 298-306	74-90	<0.064	0.088	Not applicable
Dry beans	Soil/pre-emergent + foliar/post-emergent 297-311	65-105	<0.064	0.081	Not applicable
Flaxseed	Soil/pre-emergent + foliar/post-emergent 300-309	74-139	<0.064	<0.064	No quantifiable residues were observed at exaggerated rates.
Peanuts nutmeat	Soil/Pre-emergent 294-307	Maturity	<0.064	0.116	Peanut oil: 0.5×
	Foliar/Post-emergent 294-308	Maturity	<0.064	0.210	

[1] g a.i./ha = grams of active ingredient per hectare

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of pyroxasulfone. Residues of pyroxasulfone in these crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.